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*Published to advance the Science of cold-blooded vertebrates*

## A HYBRID SALMONID.

In the latter part of June, 1918, Mr. John W. Titcomb, State fish culturist of New York, sent to the Bureau of Fisheries a specimen of trout for identification. Mr. Titcomb suspected that it was a hybrid, which it proved to be. The specimen was taken in Bash Bish Brook, near Copake Iron Works, N. Y., where it was stated, besides the brook trout (*Salvelinus fontinalis*), the rainbow trout (*Salmo irideus*) and brown trout (*Salmo fario*) also existed. Structure and color comparisons, and examination of literature pertaining to hybrid salmonidæ lead to the conclusion that this specimen was a cross between a brook trout and rainbow trout.

The viscera had been removed, but it had the general appearance of a male fish, and its general shape was that of a brook trout.

The arrangement of the teeth on the vomer as observed when in no way disturbed had the typical appearance of a *Salmo* vomer under the same conditions. When the vomer was removed, however, it was found to be "boat-shaped" with a raised crest much as in the Lake Trout (*Cristivomer namaycush*) but the teeth were arranged on the head and crest in the same manner as on the head and shaft of a *Salmo* vomer.

If the lighter shade of the fish is regarded as the ground color, the specimen would be said to be light gray and silvery with coarse cloud-marks of dark brown or "zebra markings." The dorsal fin is marked much as in the brook trout. The caudal fin was broken, so that nothing could be determined concerning its markings. The pectorals and ventrals have the outer white ray bordered within by black as in the brook trout. The belly is white with dusky punctulations.

The following dimensions are given in per cent of the body length:

	<i>Hybrid</i>	<i>Brook Trout</i>	<i>Rainbow</i>
Length in mm. to end of fully developed scales .....	145	236	261
Distance, tip of snout to nape .....	17.93	16.9	19.9
Distance, nape to front base of dorsal .....	32.41	28.1	33.3
Length of base of dorsal .....	13.79	12.7	15.7
Longest ray of dorsal .....	16.51	15.5	18.3
Distance from posterior base of dorsal to front of adipose fin .....	20.68	19.2	19.5
Length of base of adipose fin .....	4.62	5.6	4.2
Distance from posterior base adipose to base caudal .....	8.27	10.3	9.5
Least diameter of caudal peduncle .....	10.34	9.4	10.7
Distance from tip of snout to base of pectoral .....	31.72	23.9	24.5
Length of pectoral .....	11.03	17.3	18.0
Distance from base of pectoral to ventral .....	33.79	30.0	32.5
Length of ventral .....	14.48	14.1	16.8
Distance from base of ventral to front base of anal .....	18.62	23.5	22.6
Length of base of anal .....	9.65	9.4	11.5
Longest ray of anal .....	15.76	15.9	12.5
Distance from posterior base anal to base caudal .....	10.34	10.8	10.5
Greatest depth of body .....	22.06	24.4	22.9
Length of head .....	26.89	24.8	30.26

The following dimensions are given in per cent of the head length:

	<i>Hybrid</i>	<i>Brook Trout</i>	<i>Rainbow</i>
Distance from tip of snout to edge of preopercle .....	76.9	81.1	77.2
Diameter of eye .....	23.7	17.9	18.9
Length of snout .....	28.2	29.2	32.9
Length of maxillary (proper) .....	47.4	49.1	48.1
Length of mandible .....	62.8	45.3	72.1
Vertical distance from top of head to lower edge of mandible, through middle of eye .....	46.1	37.6	54.4

	Hybrid	Brook Trout	Rain-bow
Interorbital width .....	29.48	30.2	31.6
Number of dorsal rays (divided) .....	10	9	10
“ “ anal rays (divided) .....	8	8	9
“ “ pectoral rays (all) .....	12	13	13
“ “ ventral rays (all) .....	8	8	10
“ “ Branchiostigal .....	9 & 8	10 & 11	10 & 11
“ “ gill rakers, right side .....	6 & 10	5 & 10	6 & 12
“ “ gill rakers, left side .....	6 & 10	6 & 10	6 & 12
“ “ scales .....	147	200	145
Sex .....	male?	male	male

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## THE SALAMANDERS OF MONROE AND WAYNE COUNTIES, N. Y.

1. *Necturus maculosus* (Rafinesque) "Lizard." Mud Puppy. Common in the lake and bays of Lake Ontario and not infrequent in the larger tributaries of the lake, e. g., Sandy Creek, Salmon Creek, Irondequoit Bay and Creek. Often caught on night lines or in seines held in swift water just below large flat rocks. Has been taken from April 1-November 24. Mr. S. C. Bishop reports it common in Clyde River.

2. *Notophthalmus viridescens viridescens* (Rafinesque). Newt. Common in swampy creeks and ponds. March 25-November. Eggs, April 15- July 1.

3. *Ambystoma jeffersonianum* (Green). Jefferson's Salamander. Rare. Secured from Duck Lake, Wayne County. Must be more common than present records show because of records at Syracuse, Batavia, and Buffalo.

4. *Ambystoma maculatum* (Shaw). "Spotted Salamander." Common in both counties. Eggs laid March 25-April 30, usually after those of the Jefferson's Salamander.

5. *Hemidactylium scutatum* (Schlegel). Four-toed Salamander. On June 11, 1916, Mrs. A. H. Wright, while searching for the small orchid, *Listera*